

## **Appendix A**

Figure 4 is equivalent to Figures 6 and 7 in:

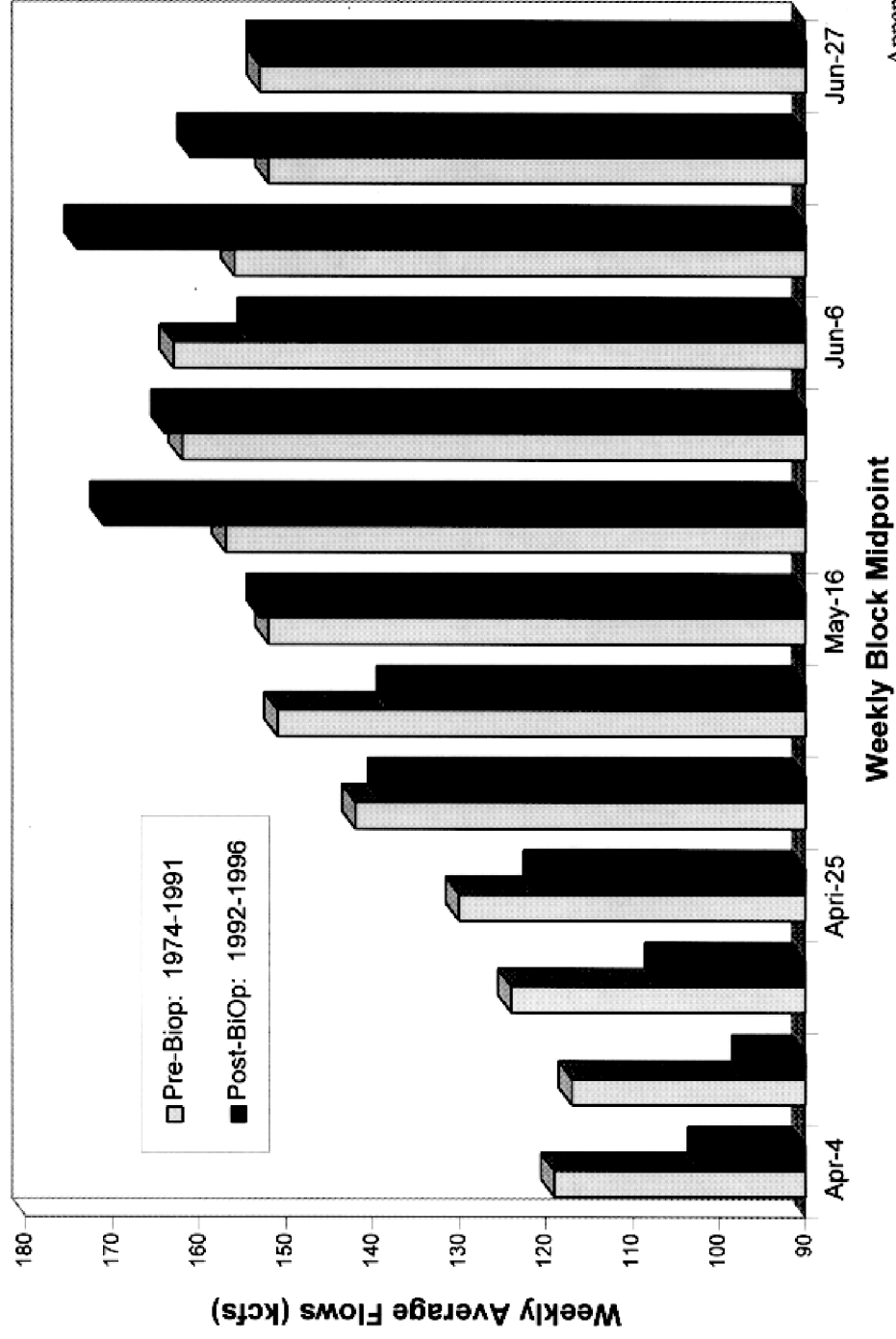
Giorgi, A.E., T.W. Hillman, J.R. Stevenson, S.G. Hays, and C.M. Peven. 1997. Factors that influence the downstream migration rates of juvenile salmon and steelhead through the hydroelectric system in the mid-Columbia River basin. *North American Journal of Fisheries Management* 17:268-282.

Figure 5 is equivalent to Figure 3b in:

Berggren, T.J. and M.J. Filardo. 1993. An analysis of variables influencing the migration of juvenile salmonids in the Columbia River basin. *North American Journal of Fisheries Management* 13:48-63.

DRAFT

**Priest Rapids Dam**  
**Pre- versus Post-BiOp Flows**  
April 1 to June 30

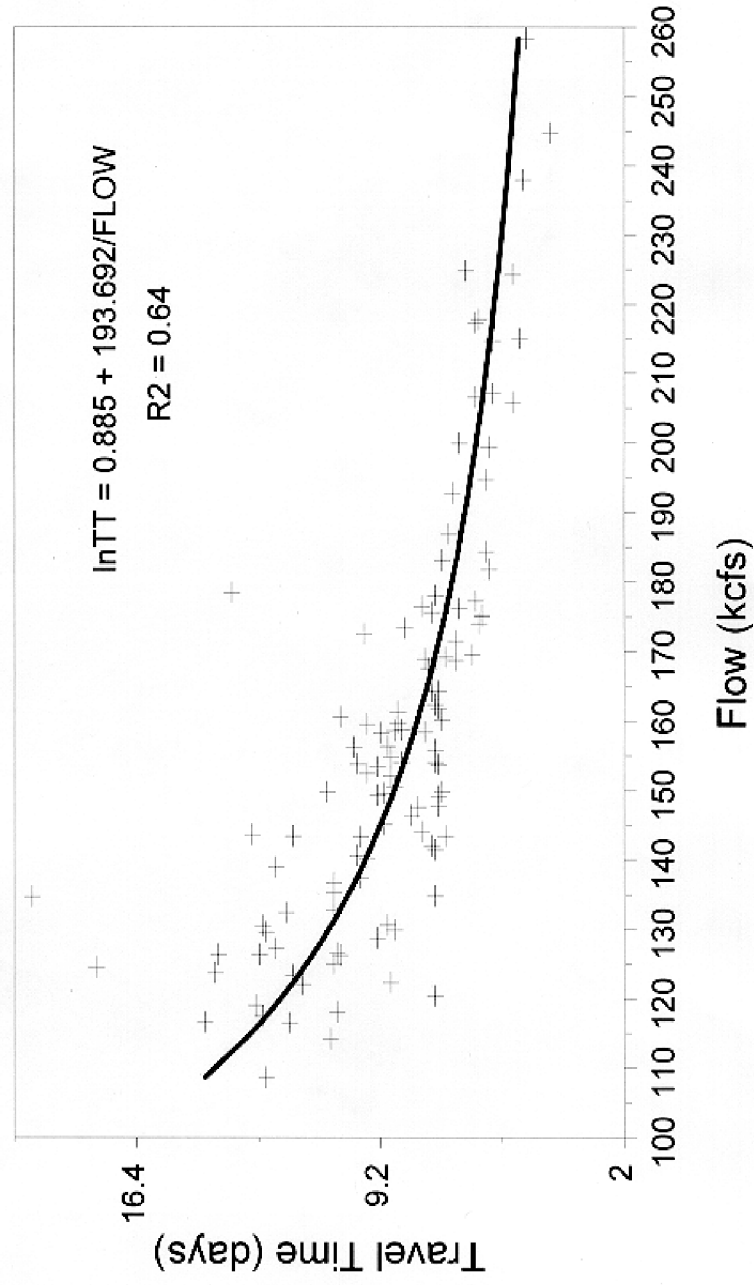


Source: Fish Passage Center

Appendix A  
Figure 1

# Hatchery Steelhead Travel Time/Flow

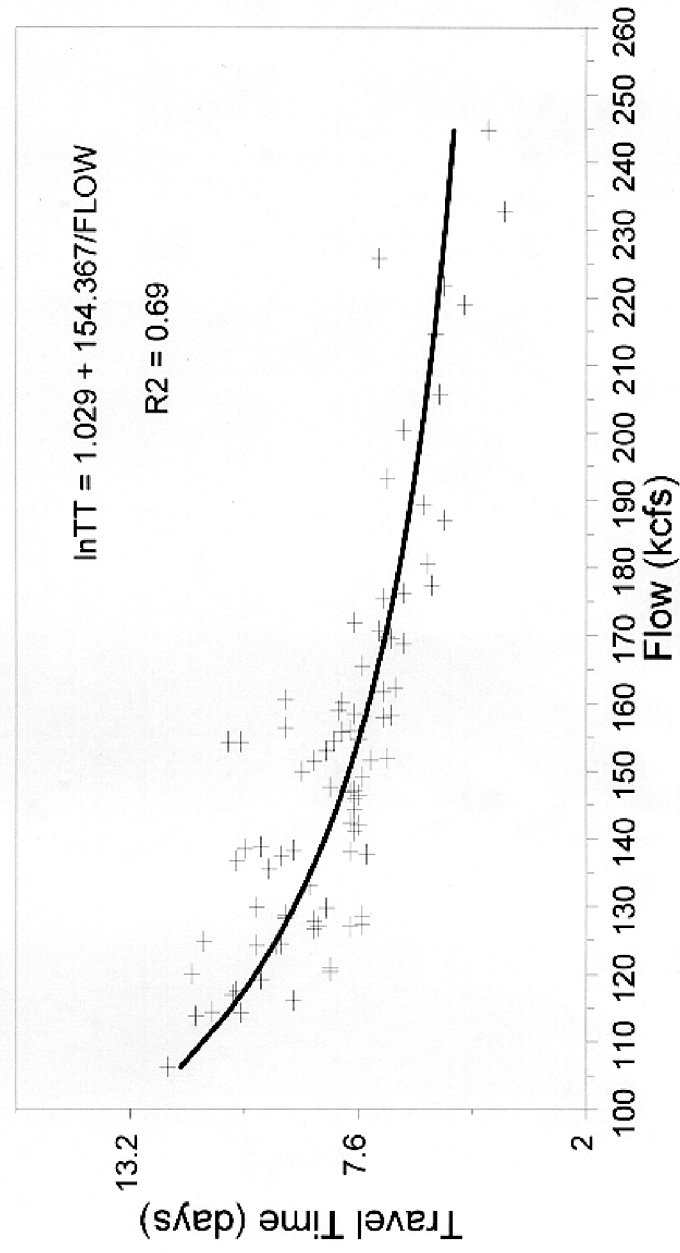
## Rock Island Dam to McNary Dam Reach



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# Wild Steelhead Travel Time/Flow

Rock Island Dam to McNary Dam Reach

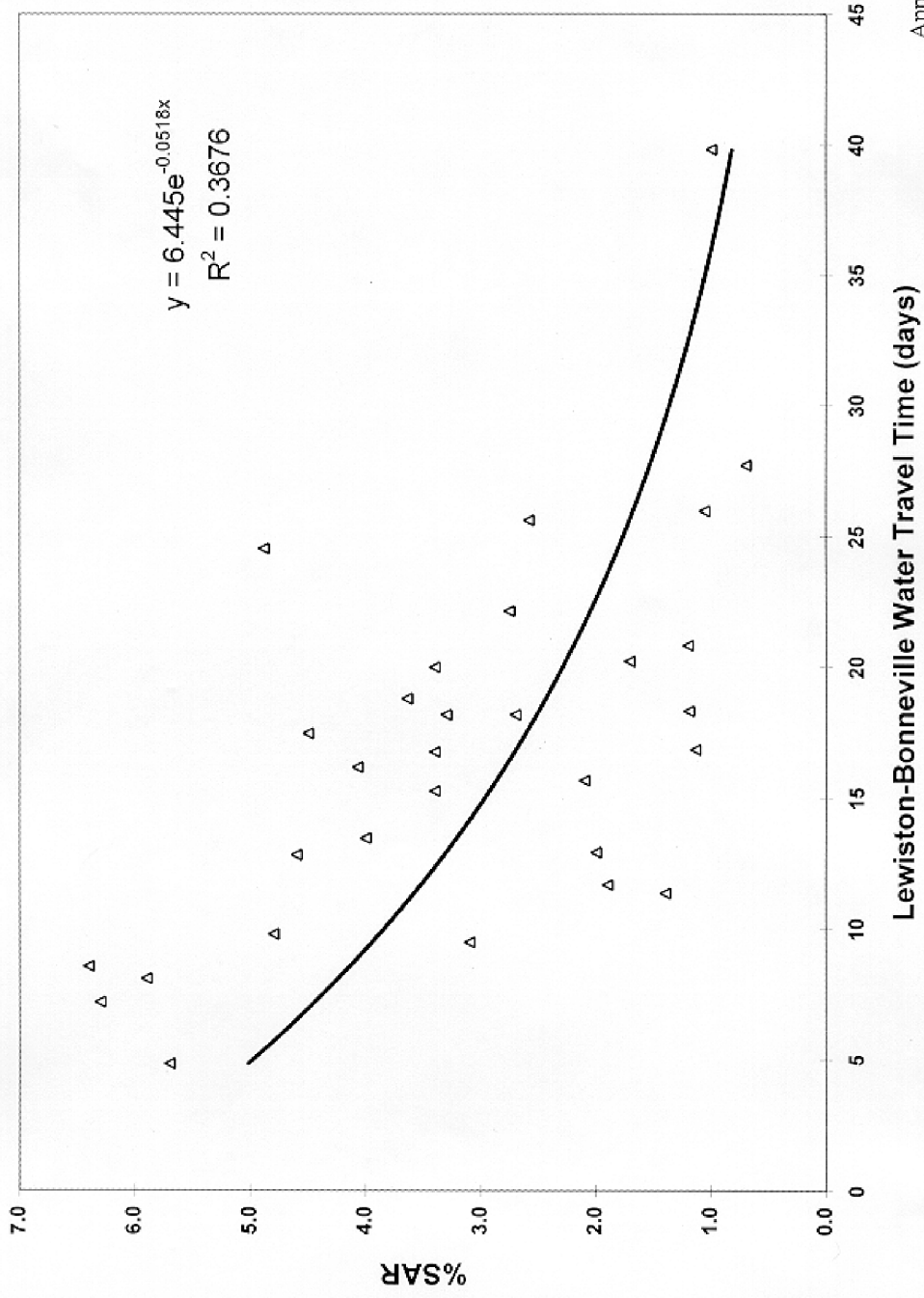


Source: Fish Passage Center

Appendix A  
Figure 3

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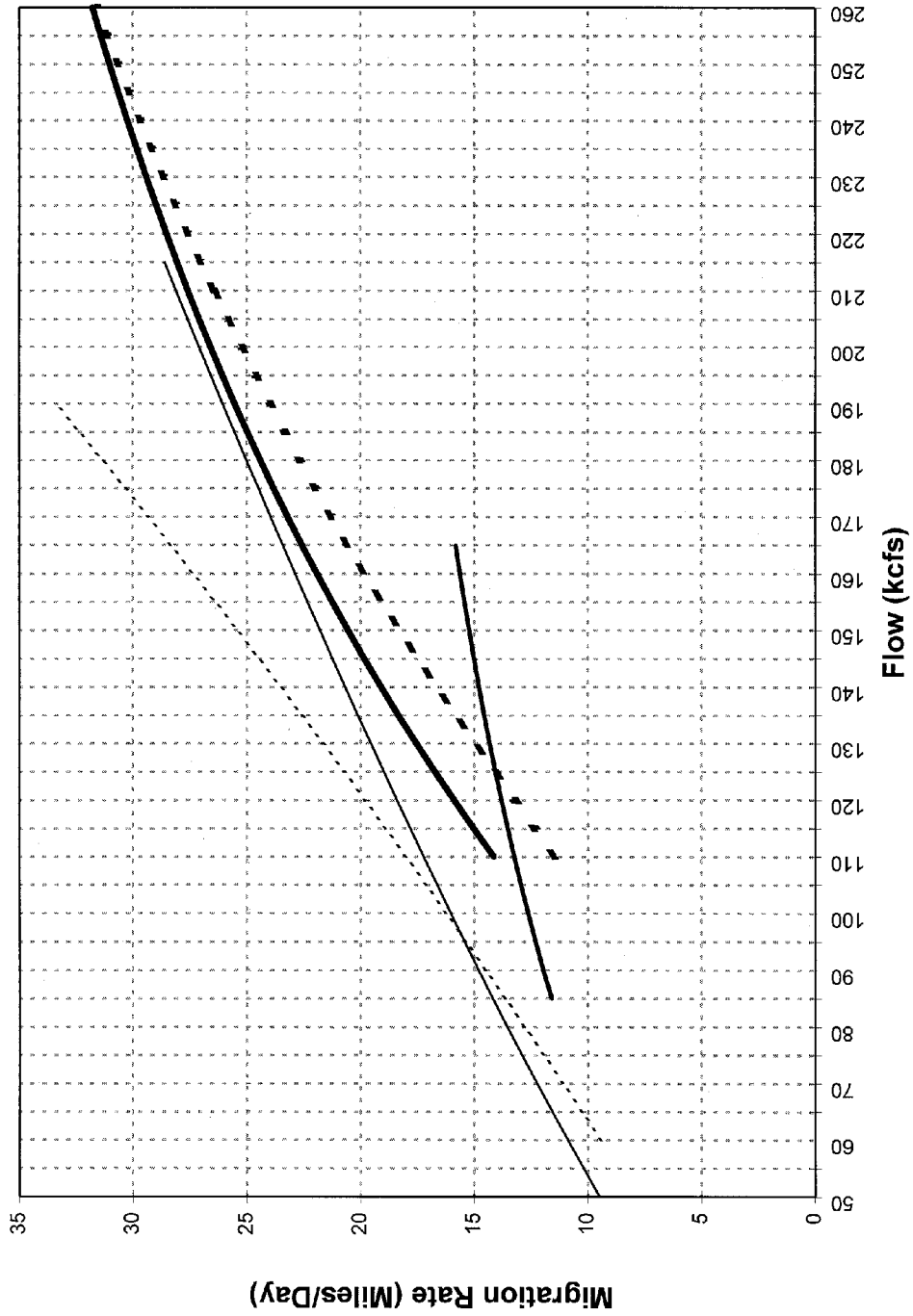
## Snake River Wild Steelhead



Source: IDFG

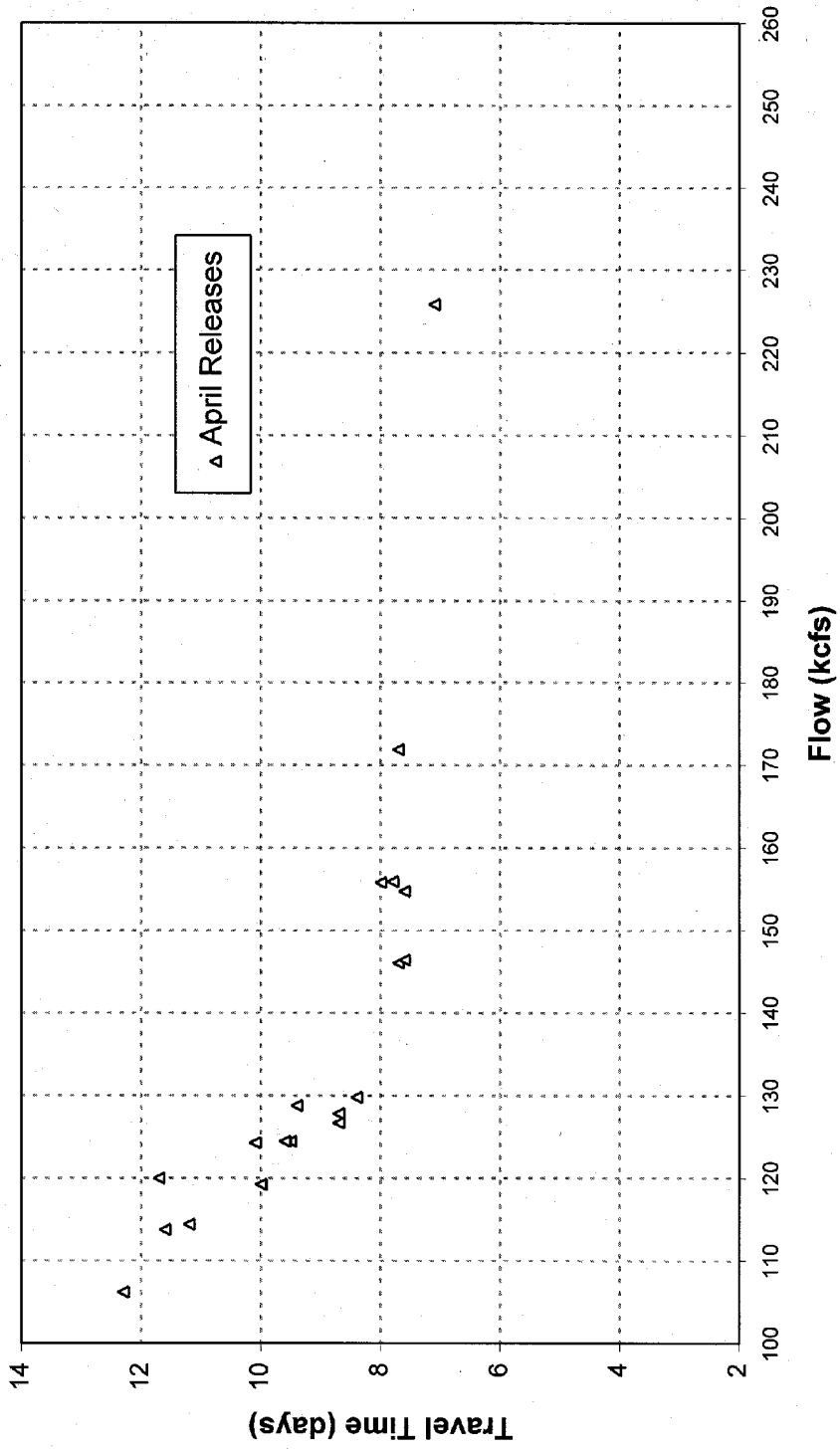
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# Migration Rate of Steelhead in the Snake and Mid-Columbia Rivers



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### Wild Steelhead - Rock Island to McNary

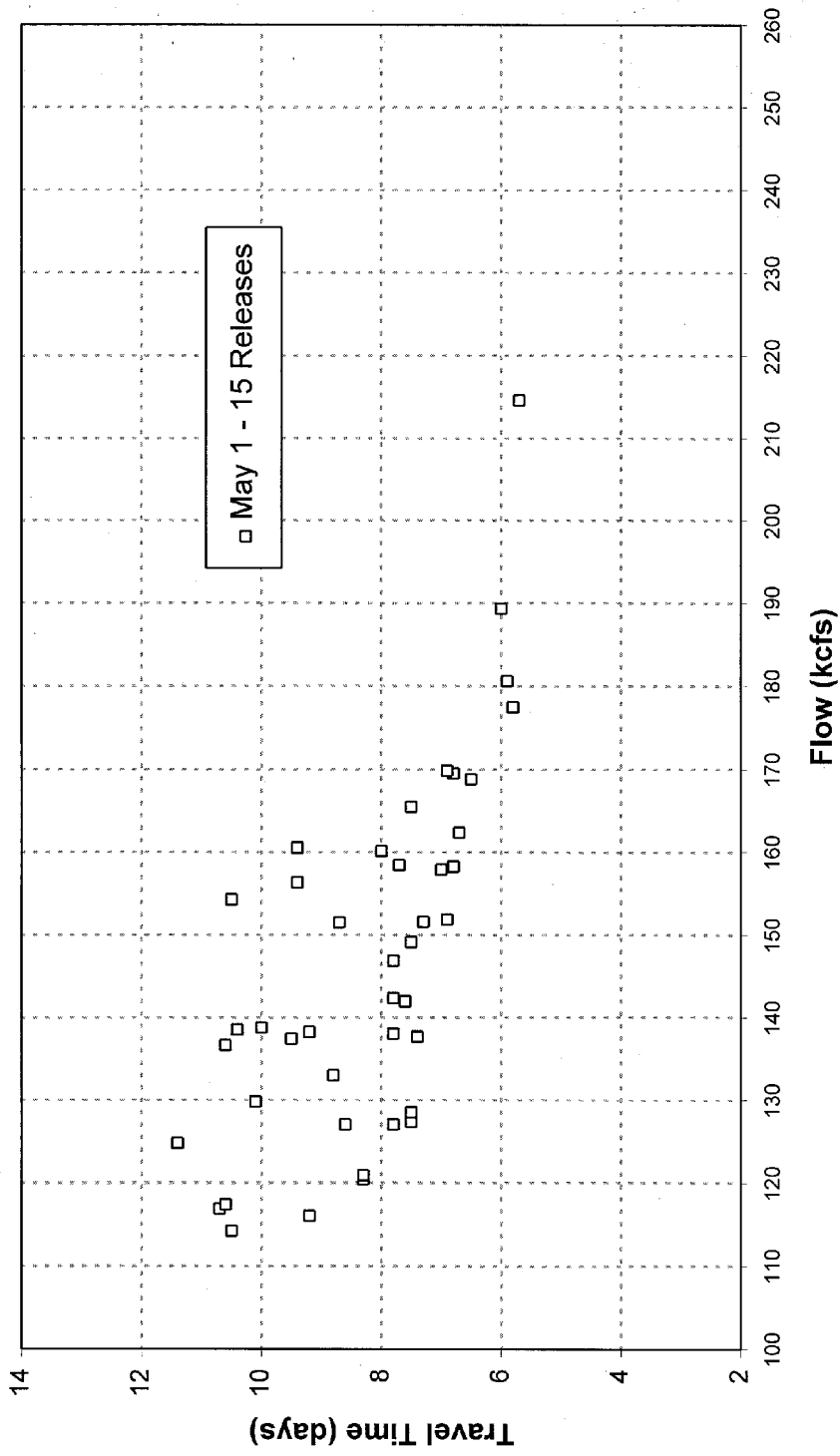


Source: WDFW

Appendix A  
Figure 8

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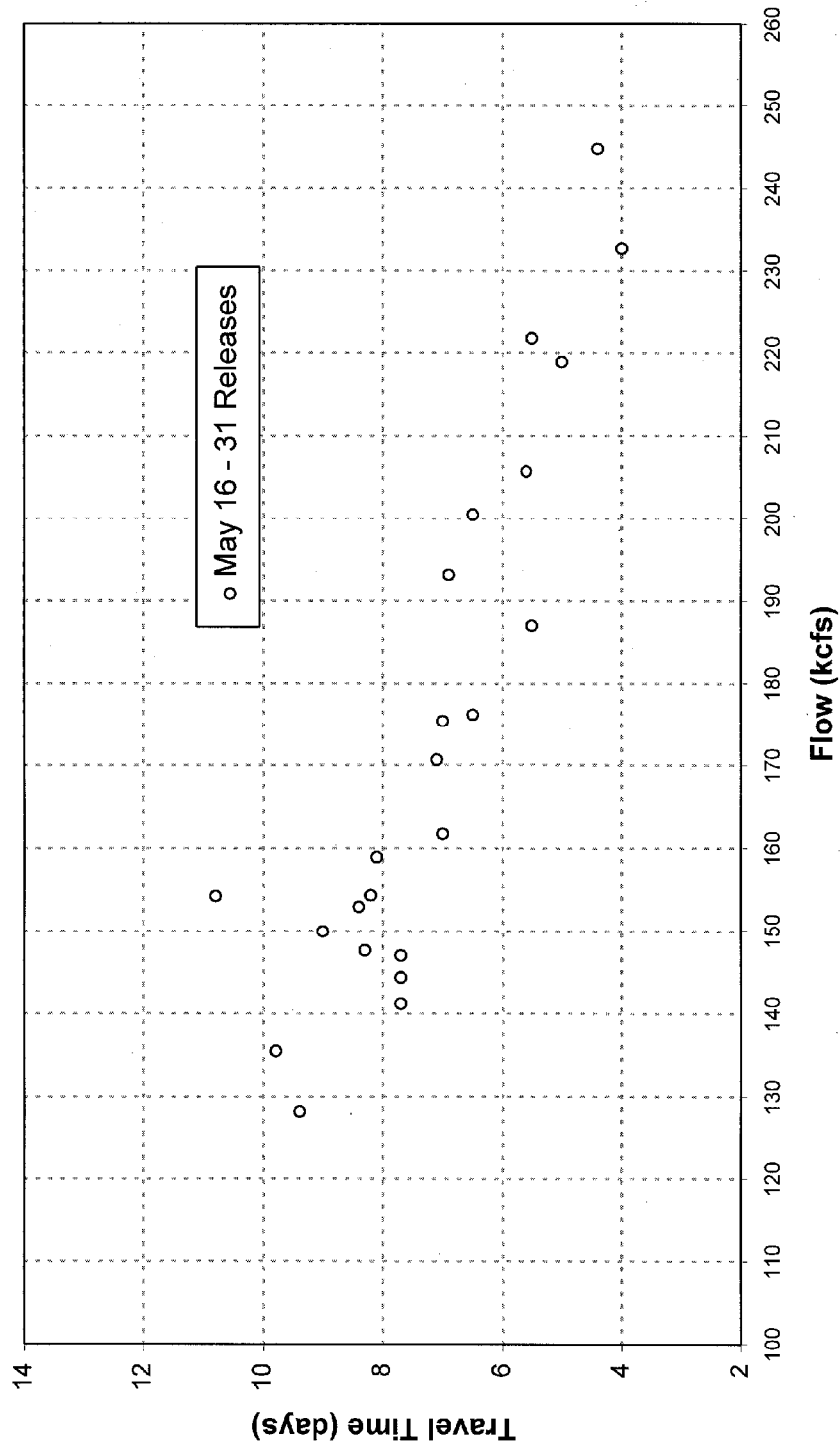
### Wild Steelhead - Rock Island to McNary





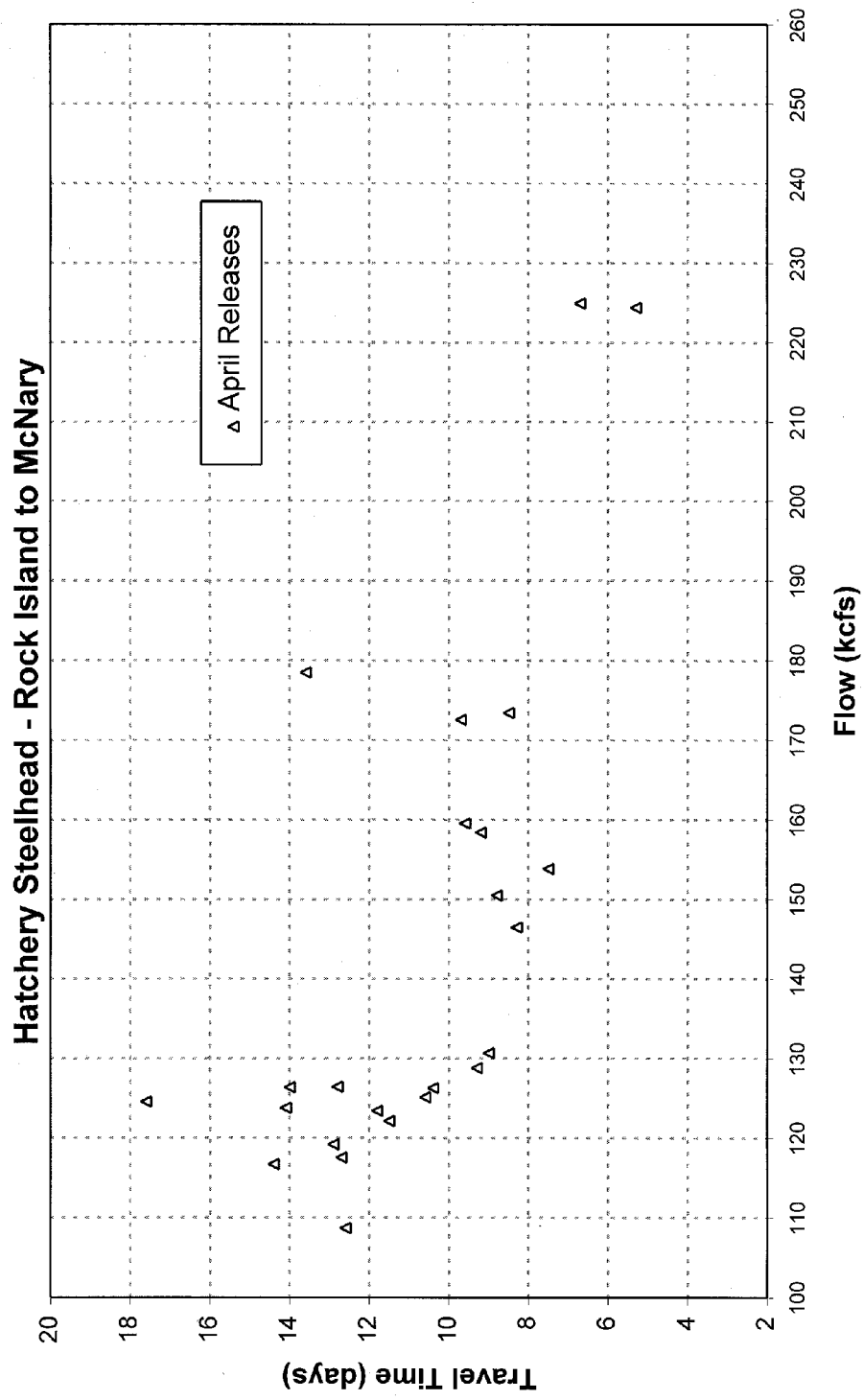
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### Wild Steelhead - Rock Island to McNary



Source: WDFW

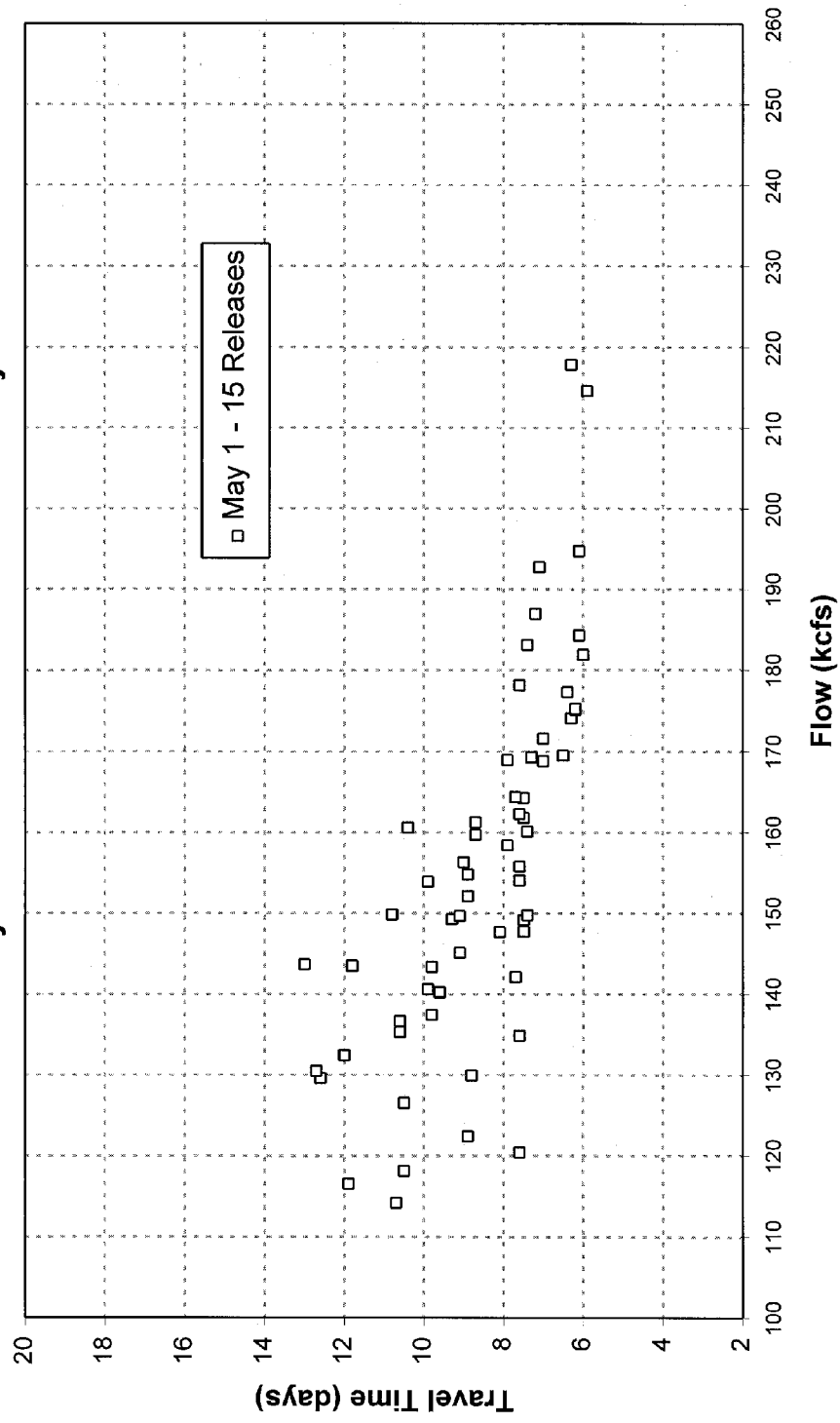
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Source: WDFW

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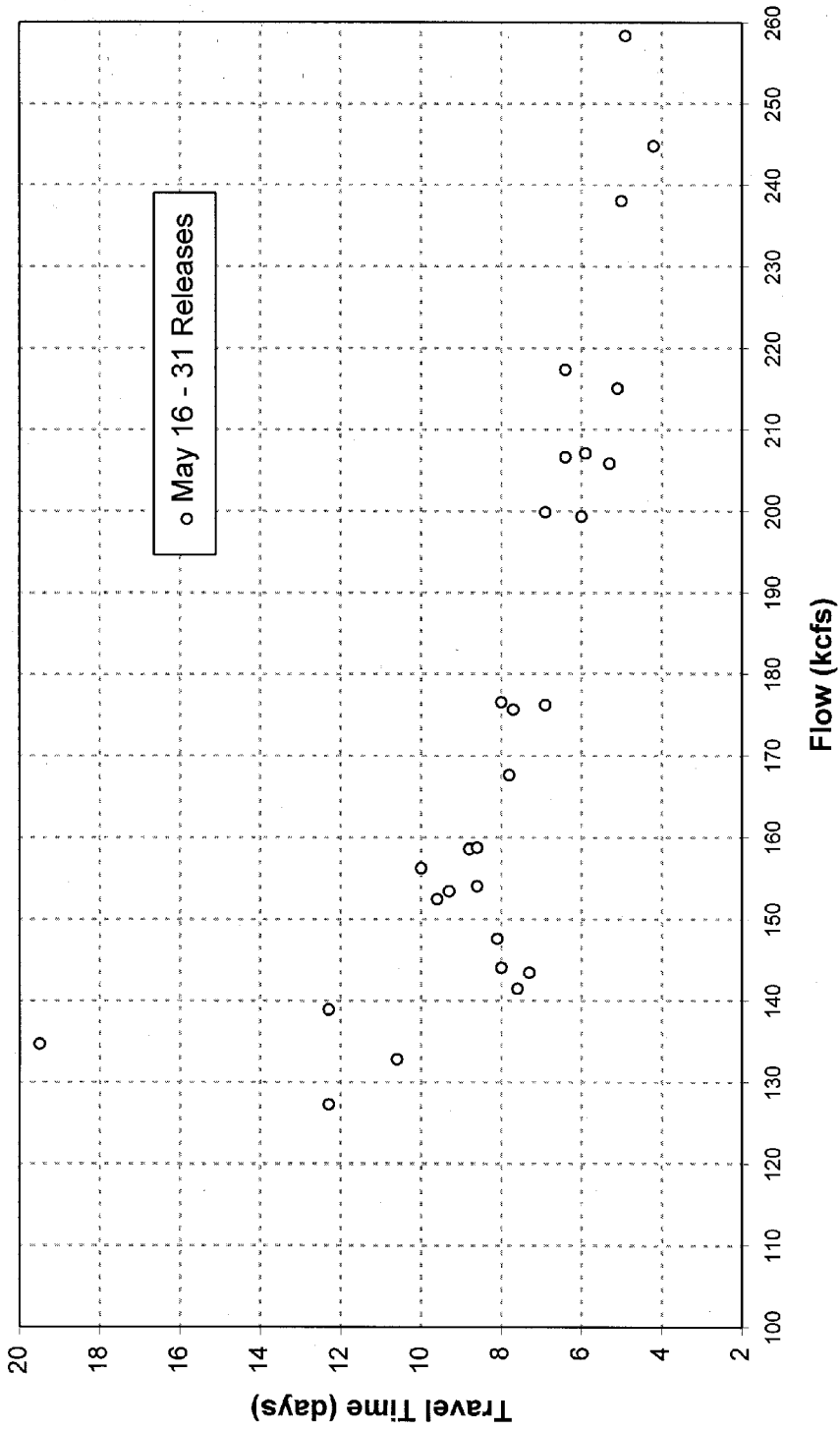
### Hatchery Steelhead - Rock Island to McNary



Source: WDFW

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### Hatchery Steelhead - Rock Island to McNary

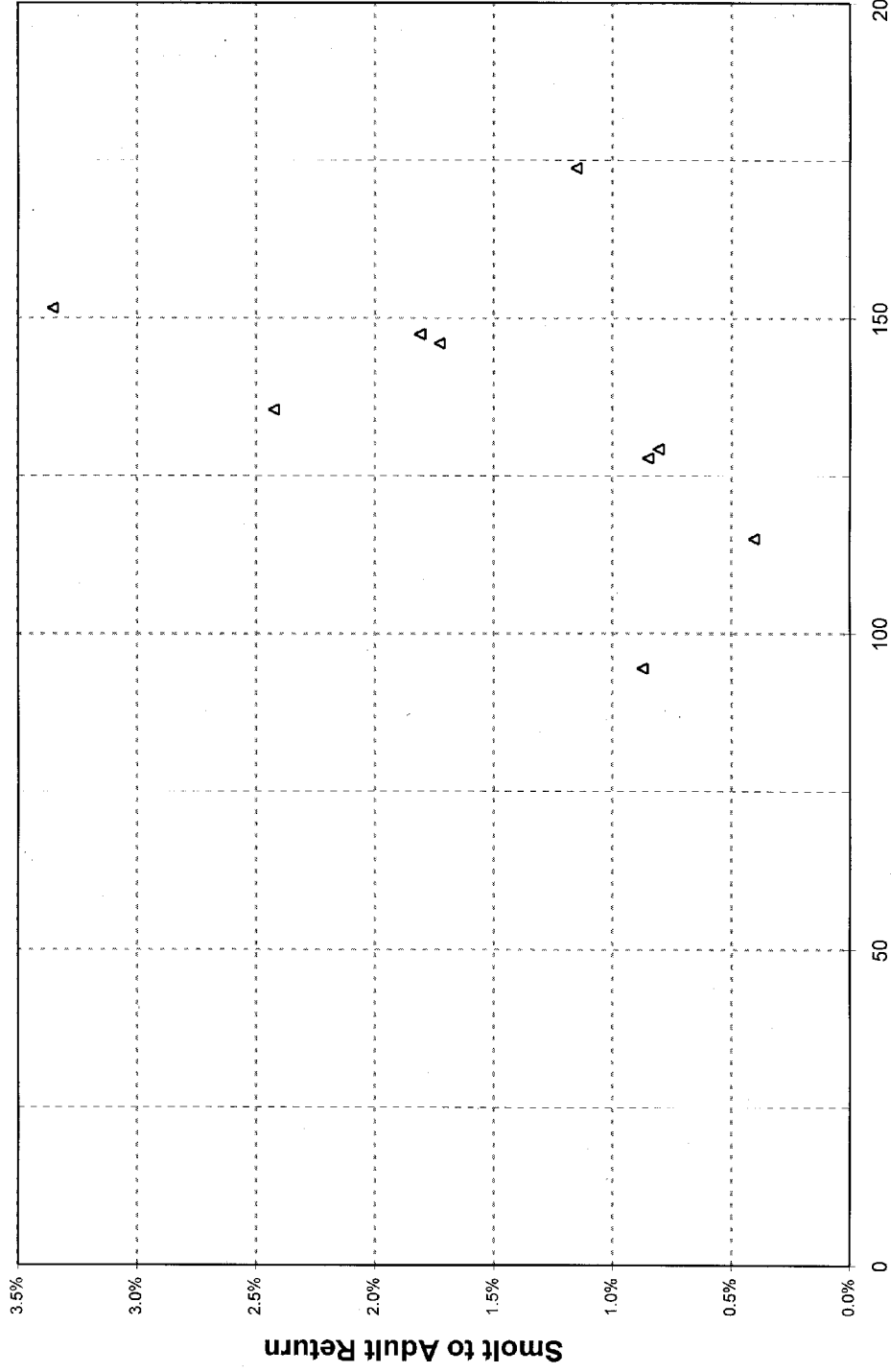


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# Mid-Columbia Hatchery Steelhead

1984-1992.

$R^2 = 0.218$   $P = 0.206$

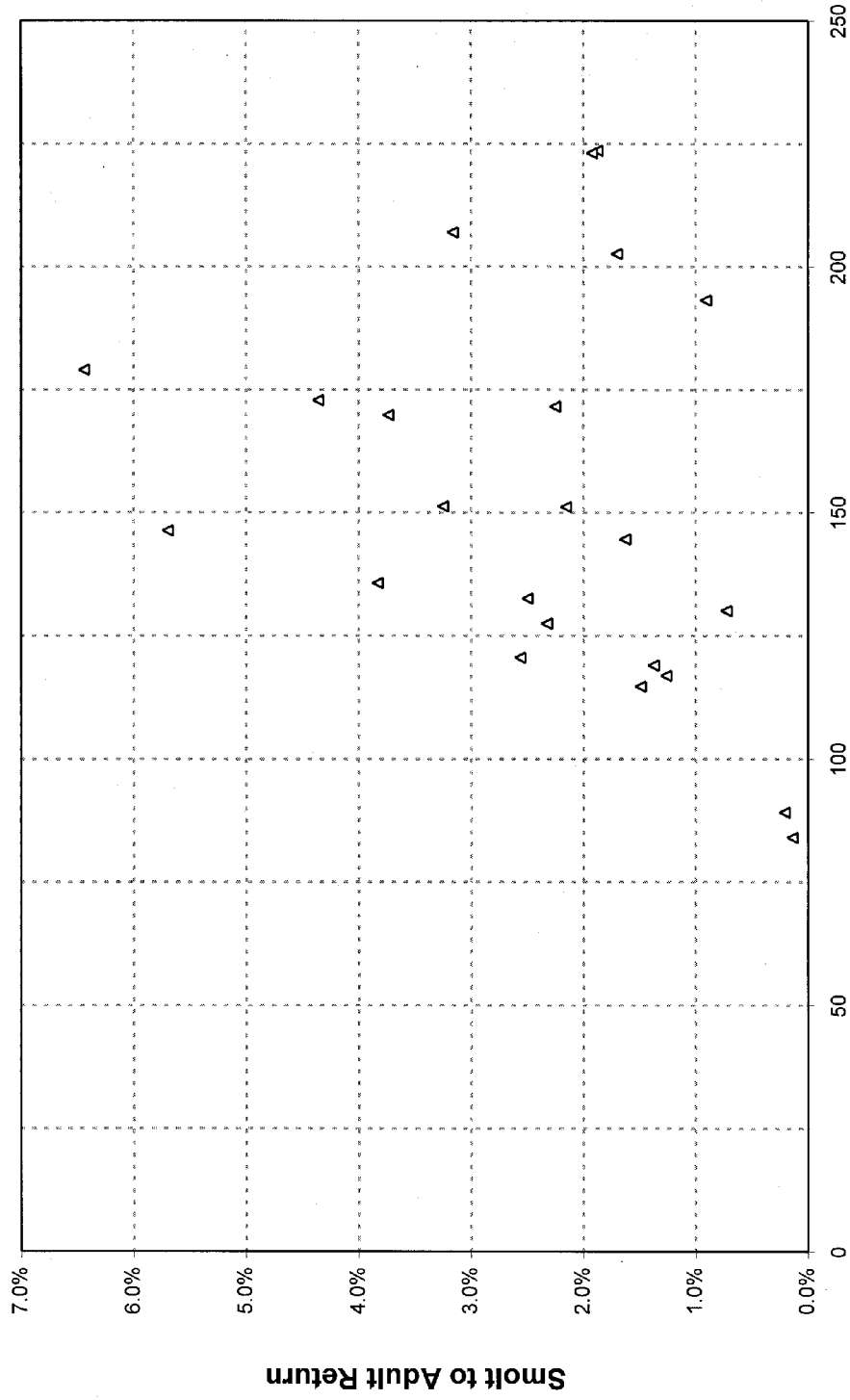


Source: Brown 1995.

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# Mid-Columbia Steelhead (Wild and Hatchery) - 1962-1984.

$R^2 = 0.099$   $P = 0.143$



Mean Flows at Priest Rapids Dam in kcfs (April 15 to May 31)

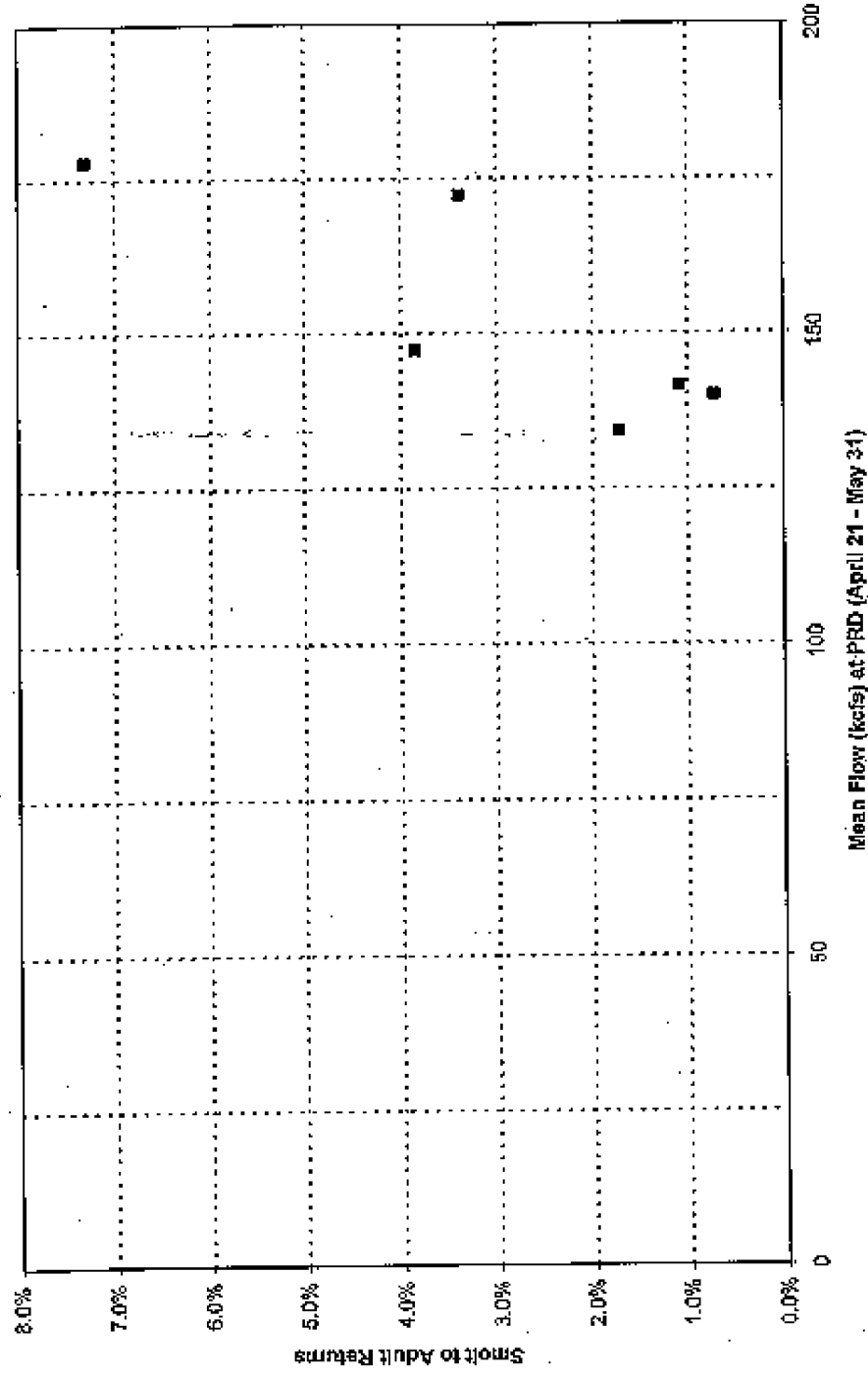
Source: Raymond 1988.

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Wells Hatchery Steelhead, 1982-1987. Mullan, et al. 1992  
 $R^2 = .889$   $P = .041$



APPEND. A

FIG. 16

2/18/93